

A Key to *Trichrysis* and New Species From Sri Lanka and Africa (Hymenoptera: Chrysididae)

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Abstract.—A key is given to 20 species of the genus *Trichrysis*. New species described are *eardeleyi* from South Africa, Nigeria and Tanzania; *hexapholis* from Sri Lanka; and *lomholdti* from South West Africa.

In connection with a generic revision of Chrysididae by Lynn Kimsey and me, 3 species of *Trichrysis* appear to be undescribed. Some 22 other species of the genus occur in the Ethiopian, Palearctic and Oriental Regions. Except for a few, rarely collected forms of other Old World genera, *Trichrysis* can be recognized by the tridentate form of tergum III. Abbreviations used in the descriptions are: F-1 etc., flagellomeres; TFC, transverse frontal carina; MOD, median ocellus diameter; T-I etc., terga; S-I etc., sterna.

The following key includes 20 species known to me. Others, not now available, are *coreana* (Uchida), *longispina* (Mocsáry), *purpuripyga* Edney, *seducta* Smith, and *sudai* Tsuneki.

Key to *Trichrysis* (based on females)

1. Pronotum with a complete sublateral, longitudinal carina 2
Pronotum without a complete sublateral, longitudinal carina, such carina
obsolete medially or absent 11
2. F-I bright green in front, pronotal median groove well developed (Palearctic
Region). 3
F-I all dark or somewhat greenish toward base, pronotal median groove
various 4
3. Hindbasitarsus bright green on outer side; T-III lateral tooth sharp; pit row
weakly indented *excisifrons* (Mocsáry)
Hindbasitarsus weakly colored; T-III lateral tooth obtuse, pit row strongly
indented *secernenda* (Mocsáry)
4. Pronotal median groove sharp and extending more than half of dorsal
surface, T-III lateral tooth merely an angle (Palearctic Region) 5
Pronotal groove weakly indicated at most; T-III lateral tooth sharp 6
5. Moderate-sized (4–6 mm long) *cyanea* (Linnaeus)
Medium large (8–11 mm long) *buyssoni* (Mocsáry)
6. F-I less than 2.5 × as long as broad, tarsi dark 7
F-I more than 2.5 × as long as broad, tarsi various. 8

7. T-III mid tooth strong, larger than lateral teeth; forewing discoidal cell well pigmented throughout (N. Africa) *scioensis* (Gribodo)
- T-III mid tooth sharp but smaller than lateral teeth; forewing discoidal cell weakly pigmented distally (Philippines) *aspera* Brullé
8. Median bridge of pit row sharply depressed, leaving apical tooth hooklike (view laterally) (Philippines, Taiwan). *luzonica* (Mocsáry)
- Median bridge of pit row at most slightly depressed. 9
9. T-III tooth intervals markedly convex (fig. 6) (Oriental Region)
- *vestigator* (Smith)
- T-III tooth intervals at most faintly convex 10
10. T-III mid tooth stronger than lateral teeth (fig. 5); highly colored green, purple, gold, and red; tarsi yellowish (S. India). *lanka* (Bingham)
- T-III mid tooth not stronger than lateral teeth, not highly colored, tarsi dark (Oriental Region) *triacantha* (Mocsáry)
11. Pronotum with a longitudinal sublateral carina which is obsolescent medially 12
- Pronotum without a longitudinal sublateral carina. 15
12. TFC strong, straight, nearly reaching eyes (fig. 4); scapal basin partly polished mediad (Ethiopian Region). *eardeleyi* Bohart
- TFC developed toward middle where it forms an inverse V (fig. 3); scapal basin various 13
13. Scapal basin completely sculptured with punctures and microridging, tarsi reddish yellow (Palearctic Region) *lacerta* (Semenov)
- Scapal basin punctate but polished between punctures mediad, tarsi various 14
14. T-III tooth intervals unusually deep and evenly incurved (fig. 3); terga highly colored, green, blue, purple, and gold; tarsi light red (Sri Lanka). *hexapholis* Bohart
- T-III tooth intervals shallow; terga green and purple; tarsi dark (Oriental Region). *trigona* Mocsáry
15. Malar space 3 or more MOD (fig. 7), T-III middle tooth long and curved downward toward tip (lateral view), S-II spots joined medially to form a large shieldlike spot (fig. 7); dorsum of body microsculptured between punctures (fig. 8) 16
- Malar space 2 MOD or less, T-III middle tooth short; S-II spots rather small, rounded, slightly separated; body dorsum without conspicuous microsculpture between punctures 17
16. Body dorsum mostly with coarse punctures, microsculpture imparting a frosted look (fig. 8), middle half of scapal basin microsculptured (S. Africa) *impressifrons* (Mocsáry)
- Body dorsum moderately to finely punctate, microsculpture quite fine, middle half of scapal basin extensively polished (fig. 7) (S. W. Africa) *lomholdti* Bohart
17. T-III tooth intervals strongly convex (as in fig. 6) 18
- T-III intervals evenly concave to almost straight (fig. 9) 19
18. Brow with a definable TFC as a downcurved crescent (Palearctic Region) *mendicalis* (Cameron)
- Brow with at most slight traces of a TFC among coarse punctures (Ethiopian Region). *heliophila* (Mocsáry)

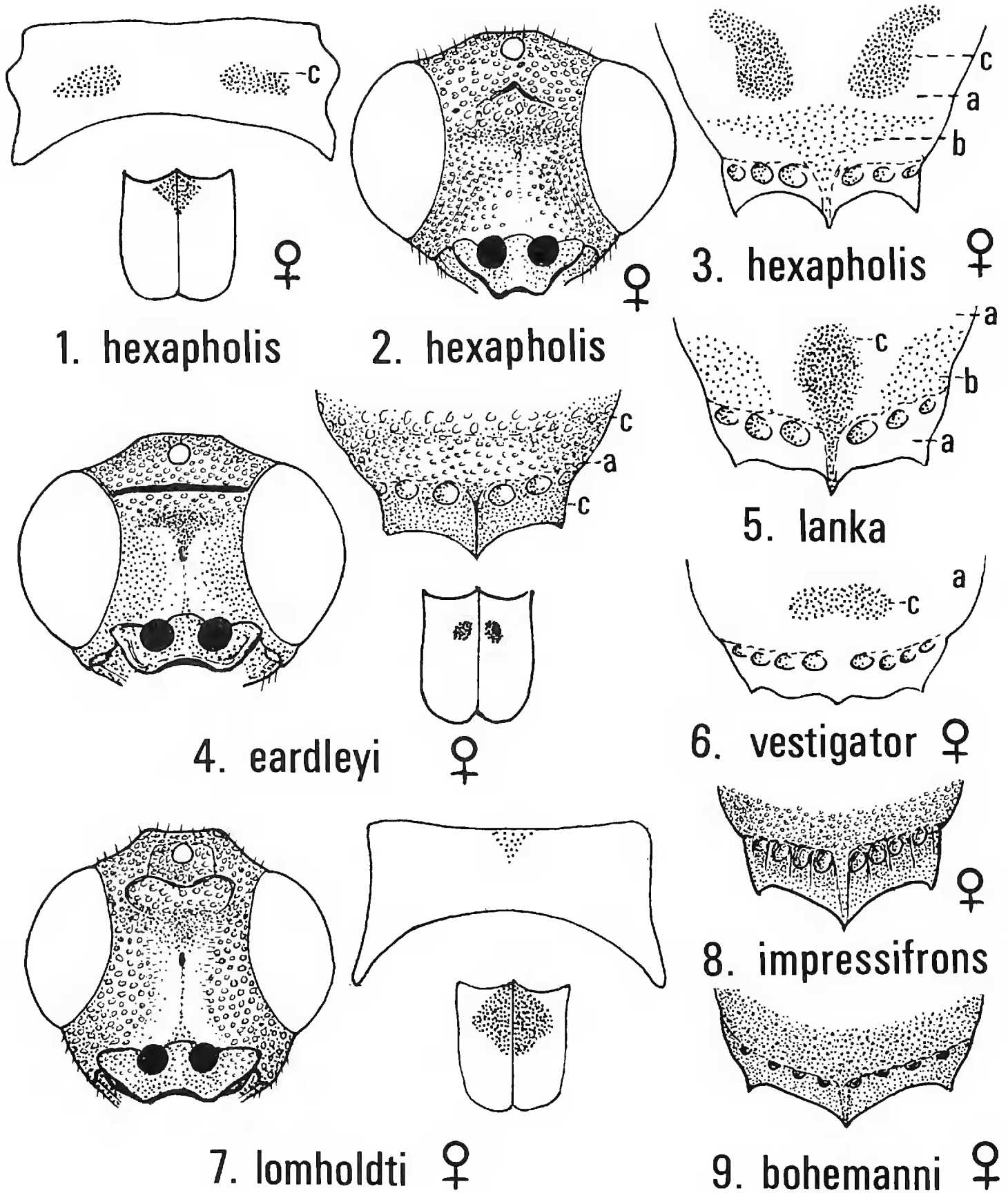


Figure 1, pronotum, S-II. Figure 2, face. Figures 3, 5, 6, 8, 9, T-III apex. Figure 4, face, T-III apex, S-II. Figure 7, face, pronotum, S-II. Small case letters, a, blue-green; b, golden; c, purple.

19. Forewing discoidal cell obsolescent toward wing apex; pit row not much impressed and pits tiny (fig. 9), T-III punctation unusually fine and close (fig. 9), F-I a little less than $2 \times$ as long as broad (Ethiopian Region) *bohemanni* Dahlbom
- Forewing discoidal cell complete; pit row well developed; T-III punctation moderate; F-I nearly $3 \times$ as long as broad (Ethiopian Region). *polinierii* Guérin

***Trichrysis eardleyi* Bohart, NEW SPECIES**

Male holotype: Length 5.5 mm. Green, grading to blue, and dark blue to black toward base of T-II and III, F-I and following dark, tarsi off-white, wings weakly stained, darkest in marginal cell. Vertex, notum and terga with moderate close punctation; scapal basin finely punctate and silvery pubescent. F-I twice as long as broad, $1.6\times$ as long as II; scapal basin concave, moderately deep; TFC strong, nearly straight, almost reaching eyes (as in fig. 4); malar space and subantennal space each about 1 MOD; pronotum with a weak dorsomedian groove, lateral margin sharply incurved in dorsal view, and with a carina broken toward middle; discoidal cell of forewing complete and with upper outer vein strong toward base; propodeal projection sharp; T-III lateral margins sinuous, pit row deep, preceded by a low transverse swelling, apical 3 teeth small but sharp, S-II spots small and oval (as in fig. 4).

Female: About as in male except: length 6.5 mm, tarsi light brown, face narrowly polished medially (fig. 4), T-III somewhat saddled, apical teeth stronger, intervals evenly concave (fig. 4).

Holotype male, South Africa: Pafuri, Kruger National Park, Transvaal, Jan. 1984 (C. D. Eardley, National Insect Collection, Pretoria). Paratype male, Nigeria: Umuahia, IV-9-75 (J. T. Medler, U. C. Davis); paratype female, Tanzania: East Usambara, Amani, II-2-77 (O. Lomholdt and O. Martin, Zoological Museum, Copenhagen).

Discussion. In many respects *eardleyi* is similar to *scioensis* (Gribodo) but there are important differences. TFC in *scioensis* is developed medially as an inverted V (as in fig. 2) rather than nearly straight and well developed all across, the sublateral pronotal carina is complete, and intervals between T-III teeth are slightly convex rather than evenly concave as in *eardleyi* (fig. 4).

***Trichrysis hexapholis* Bohart, NEW SPECIES**

Female holotype: Length 5.5 mm. Green with bright purple and gold markings as follows: purple are ocellar area, neck, transverse pronotal spots, broad median notal stripe, rim above tegula, large semimedial spots on T-I-II-III, basal band on T-II-III; gold are apicolateral spots on T-I, apical band enlarged sublaterally on T-II, prepit band on T-III extended onto middle tooth; flagellum dark, wings faintly stained, tarsi light reddish. F-I $2.5\times$ as long as broad, $1.5\times$ as long as II; scapal basin shallow, coarsely punctate laterally, becoming mostly polished in median one-third; brow prominent but short, topped by an inverted broad V-like TFC in middle one-third (fig. 2); malar space 1.6 MOD, subantennal space 1.2 MOD; pronotum with a weak dorsomedian groove, lateral margin sharply incurved (fig. 1), and with a carina which is broken toward middle; discoidal cell of forewing complete; propodeal projection sharp; T-III lateral margin weakly convex, pit row with distinct pits preceded by a low transverse swelling and moderate saddle; apical 3 teeth long and sharp, intervals deeply concave (fig. 3); S-II spots joining to form a sharp median triangle (fig. 1).

Male: Unknown.

Holotype female, Sri Lanka: Colombo, IV-10-68 (T. F. Halstead, California Academy of Sciences).

Discussion. The striking dorsal pattern is similar to that of other Sri Lankan chrysidids, particularly *Trichrysis lanka* (Bingham). However, that species has a

complete sublateral pronotal carina; T-III stouter, the teeth shorter, and the intervals nearly straight rather than deeply concave (compare figs. 3, 5).

Trichrysis lomholdti Bohart, NEW SPECIES

Female holotype: Length 3.8 mm. Blue becoming purple toward base of T-II and T-III; flagellum dark; wings water clear; tarsi dark. F-I $3.5\times$ as long as broad, $1.5\times$ as long as II; scapal basin moderately concave, coarsely punctate in outer one-quarter, polished in middle half; brow rounded, TFC faint, laterally recurved, malar space 4 MOD (fig. ?); subantennal space 1.5 MOD; midocellar area outlined by a fine carina; punctation of vertex and notum moderate, punctures of terga finer and separated by weak microsculpture, those of T-III saddle 1–3 puncture diameters apart; pronotum without a dorsomedian groove, weakly incurved laterally (fig. 7) and ecarinate; discoidal cell veins of forewing weak but pigmented; propodeal projection short and acute; T-III lateral margin slightly convex, pit row consisting of 14 moderately impressed pits preceded by a low transverse swelling and moderate saddle; apical 3 teeth sharp, lateral ones receding, intervals evenly but shallowly concave; S-II spots joining to form a large, shieldlike mark (fig. 7).

Male. Unknown.

Holotype female, S. W. Africa: 110 km e. Windhoek, X-25-72, (C. L. Hogue, National Insect Collection, Pretoria).

Discussion. The only other species of *Trichrysis* with a long malar space is *impressifrons* (Mocsáry), also from the Ethiopian Region. However, that species has the scapal basin microridged mediad, punctures of vertex and notum more coarse and with obvious intervening micropunctation, T-III strongly convex on the lateral margin, prepit swelling rather sharp, pit row deeply impressed, and postpit area longer (fig. 8). This species is named for Ole Lomholdt of the Zoological Museum in Copenhagen for his special interest in African Hymenoptera and his overall cooperation in our chrysidid study.